Work Order ID 95376

January-09-13 11:43:34 AM

95376

Item ID: D3651-9

Revision ID:

Item Name: Inside Doubler

Accept *N900040100*

Setup **Start** *NS1* **Stop** *NS2*

Start Date: 2/06/13 **Start Qty:** 4.00 *4*

Required Date: 2/06/13 **Req'd Qty:** 4.00 *4*

Cust Item ID:

Customer:

Reference:

Run **Start** *NR1* **Stop** *NR2*

Approvals: **Process Plan:** MLS **Date:** 13-01-10 **Tooling:** ______ **Date:** ______

QC: ______ **Date:** ______ **SPC (Y/N):** ______ **Date:** ______

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr D3651	**Revision Nbr** Rev B								
100 *100* Waterjet FLOW CNC Waterjet 304.48	FLOW WATER JET **Memo** 1-Cut as per Dwg D3651 Dwg Rev: B Prog Rev: B 2-Deburr if necessary	0.00 0.00				4	0		JM 13-2-13
110 *110* QC Quality Control	QC2- Inspect parts off machine FAI/FAIB **Memo**	0.00 0.00				4	0		JM 13-2-13
120 *120* QC Quality Control	QC8- Inspect parts - second check **Memo**	0.00 0.00 SMB 13.2.14				4			

DQA: ________ Date: ________________

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: ________	**DISPOSITION**	**AGAINST DEPARTMENT/PROCESS**			
Part No. ________	Rework ☐	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐
	Scrap ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coor. ☐	Quality ☐
NCR No. ________	Use-as-is ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
	Work Order Update ☐	Large Fab ☐	Composite ☐	Supplier ☐	☐

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data ☐									
Equip/Tooling ☐									
Operator ☐									
Material ☐									
Setup ☐									
Other ☐									
Process ☐									
Supplier ☐									
Training ☐									
Unapproved ☐									

FAULT CATEGORY

Landing Gear	**General**			
☐ Bending	☐ Bend	☐ Grain	☐ Ovalized	☐ Pressure/Forced
☐ Centre Not Concentric to O/S	☐ BOM/Route	☐ Hardware	☐ Over/Under tolerance	☐ Temperature/Cure
☐ Cracks	☐ Broken/Damaged	☐ Inspection Incomplete	☐ Part Incorrect	☐ Weld
☐ Crushed/Crimped	☐ Burrs	☐ Instructions Incomplete/Unclear	☐ Part Lost/Missing	☐ Wrong Stock Pulled
☐ Cuffs	☐ Contamination	☐ Maintenance	☐ Part Moved	
☐ Heat Treat	☐ Countersink	☐ Mislabeled	☐ Positioned Wrong	
☐ Inspection Strip in Tube	☐ Cut Too Short	☐ Misread	☐ Power Loss/Surge	☐ Other ________
☐ Ripples in Bend	☐ Drill Holes	☐ Offset	________	
☐ Torque Waves in Extrusion	☐ Drawing	☐ Out of Calibration	________	
☐ Turning Sequence	☐ Finish	☐ Out of Sequence	________	
☐ Wave/Twist in Tube	☐ Folio	☐ Outside Dimensions		

Work Order ID 95376

January-09-13 11:43:34 AM

95376

Item ID:	D3651-9	**Accept**	*N900040100*
Revision ID:		**Setup**	**Start** *NS1*
Item Name:	Inside Doubler		**Stop** *NS2*

Start Date:	2/06/13	**Start Qty:**	4.00	*4*	**Cust Item ID:**
Required Date:	2/06/13	**Req'd Qty:**	4.00	*4*	**Customer:**
Reference:					

Run **Start** *NR1* **Stop** *NR2*

Approvals: **Process Plan:** ________ **Date:** ________ **Tooling:** ________ **Date:** ________

QC: ________ **Date:** ________ **SPC (Y/N):** ________ **Date:** ________

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* Packaging Packaging	Identify as per dwg & Stock Location: ST 188	0.00				4X			[stamp] 13-2-14.
	Memo	0.00							
140 *140* QC Quality Control	QC21- Final Inspection - Work Order Release	0.00					13/2/14		[stamp] MK 13-2-14
	Memo	0.00							

DQA: ________ Date: ________________

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: ____________________

Part No. ____________________

NCR No. ____________________

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐
Machining ☐	Small Fab ☐	Prod. Eng. Coor. ☐	Quality ☐
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
Large Fab ☐	Composite ☐	Supplier ☐	☐

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data ☐									
Equip/Tooling ☐									
Operator ☐									
Material ☐									
Setup ☐									
Other ☐									
Process ☐									
Supplier ☐									
Training ☐									
Unapproved ☐									

FAULT CATEGORY

Landing Gear	General			
☐ Bending	☐ Bend	☐ Grain	☐ Ovalized	☐ Pressure/Forced
☐ Centre Not Concentric to O/S	☐ BOM/Route	☐ Hardware	☐ Over/Under tolerance	☐ Temperature/Cure
☐ Cracks	☐ Broken/Damaged	☐ Inspection Incomplete	☐ Part Incorrect	☐ Weld
☐ Crushed/Crimped	☐ Burrs	☐ Instructions Incomplete/Unclear	☐ Part Lost/Missing	☐ Wrong Stock Pulled
☐ Cuffs	☐ Contamination	☐ Maintenance	☐ Part Moved	
☐ Heat Treat	☐ Countersink	☐ Mislabeled	☐ Positioned Wrong	
☐ Inspection Strip in Tube	☐ Cut Too Short	☐ Misread	☐ Power Loss/Surge	☐ Other ________
☐ Ripples in Bend	☐ Drill Holes	☐ Offset	________	
☐ Torque Waves in Extrusion	☐ Drawing	☐ Out of Calibration	________	
☐ Turning Sequence	☐ Finish	☐ Out of Sequence	________	
☐ Wave/Twist in Tube	☐ Folio	☐ Outside Dimensions		

Picklist Print

January-09-13 11:43:34 AM

Work Order ID: 95376

Parent Item: D3651-9

Parent Item Name: Inside Doubler

Start Date: 2/06/13 **Required Date:** 2/06/13

Start Qty: 4.00 **Required Qty:** 4.00

Comments:
IPP Rev:A New Issue 07-09-27 DD verified by: EC
IPP Rev:B ECN 1113P 08-01-22 DD
IPP Rev:C ecn1162 08-04-02 DD verified by: EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S26GA 304/316 0.018 SHEET		Purchased	No			110	sf	303.3400	**0.431**	~~1.8147368~~ 2.0			JM 3-2-13

Location	Loc Qty	Loc Code	
MAT020	303.34		
117798	69.28		
122753	97.06		
123135	137		123135

DQA: ________ Date: ________________

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: ________	DISPOSITION	AGAINST DEPARTMENT/PROCESS			
Part No. ________	Rework ☐	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐
NCR No. ________	Scrap ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coor. ☐	Quality ☐
	Use-as-is ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
	Work Order Update ☐	Large Fab ☐	Composite ☐	Supplier ☐	☐

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data ☐									
Equip/Tooling ☐									
Operator ☐									
Material ☐									
Setup ☐									
Other ☐									
Process ☐									
Supplier ☐									
Training ☐									
Unapproved ☐									

FAULT CATEGORY

Landing Gear	General			
☐ Bending	☐ Bend	☐ Grain	☐ Ovalized	☐ Pressure/Forced
☐ Centre Not Concentric to O/S	☐ BOM/Route	☐ Hardware	☐ Over/Under tolerance	☐ Temperature/Cure
☐ Cracks	☐ Broken/Damaged	☐ Inspection Incomplete	☐ Part Incorrect	☐ Weld
☐ Crushed/Crimped	☐ Burrs	☐ Instructions Incomplete/Unclear	☐ Part Lost/Missing	☐ Wrong Stock Pulled
☐ Cuffs	☐ Contamination	☐ Maintenance	☐ Part Moved	
☐ Heat Treat	☐ Countersink	☐ Mislabeled	☐ Positioned Wrong	
☐ Inspection Strip in Tube	☐ Cut Too Short	☐ Misread	☐ Power Loss/Surge	☐ Other
☐ Ripples in Bend	☐ Drill Holes	☐ Offset		
☐ Torque Waves in Extrusion	☐ Drawing	☐ Out of Calibration		
☐ Turning Sequence	☐ Finish	☐ Out of Sequence		
☐ Wave/Twist in Tube	☐ Folio	☐ Outside Dimensions		

DART AEROSPACE LTD	Work Order:	95376
Description: Inside Doubler	**Part Number:**	**D3651-9**
Inspection Dwg: D3651 **Rev:** B		**Page 1 of 1**

FIRST ARTICLE INSPECTION CHECKLIST

[X] **First Article** [ ] **Prototype**

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.25	+0.004/-0.001	0.253"	–		V	JHM01
0.250	+/-0.010	0.251"	–		V	
0.500	+/-0.010	0.504"	–		V	
6.33	+/-0.030	6.334"	–		V	
9.81	+/-0.030	9.812"	–		V	Prod.W002
2.818	+/-0.010	2.821"	–		V	
2.100	+/-0.010	2.109"	–		V	
2.100	+/-0.010	2.105"	–		V	
2.575	+/-0.010	2.583"	–		V	
2.000	+/-0.010	2.003"	–		V	
5.514	+/-0.010	5.516"	–		V	
2.750	+/-0.010	2.753"	–		V	
2.200	+/-0.010	2.202"	–		V	
2.371	+/-0.010	2.375"	–		V	
1.325	+/-0.010	1.327"	–		V	
3.112	+/-0.010	3.118"	–		V	
1.400	+/-0.010	1.403"	–		V	
5.514	+/-0.010	5.516"	–		V	

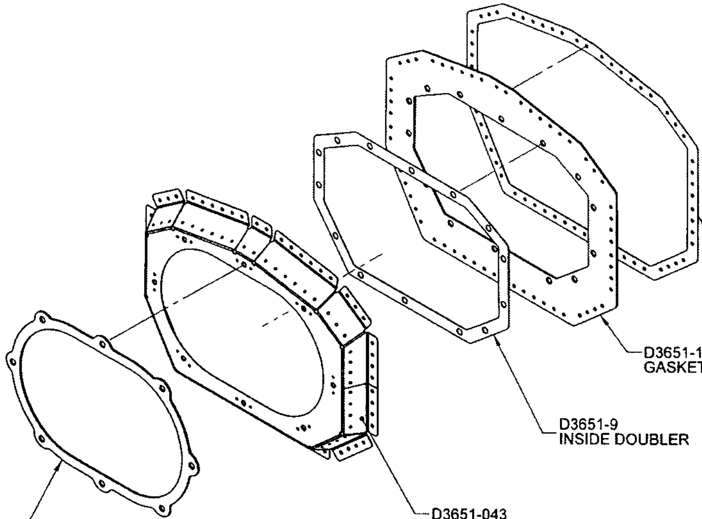
Measured by:	Jm	Audited by:	SmD	Prototype Approval:	N/A
Date:	13-2-13	Date:	13.2.14	Date:	N/A

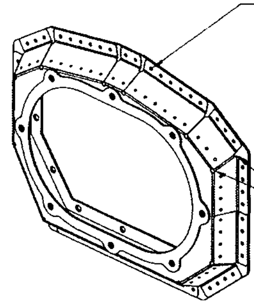
Rev	Date	Change	Revised by	Approved
A	08.04.17	New Issue	KJ/DD	

8 7 6 5 4 3 2 1

SHOP... RETUR... ENGIN... UNCONTR... SUBJECT TO... WITHO... WO...

NO. 95376 MCJ 13-01-10





PART LIST

QTY -041	PART NUMBER	DESCRIPTION
X	**D3651-041**	**AFT BASE ASSEMBLY**
1	D3651-043	FLANGE WELDMENT
1	D3651-1	GASKET
1	D3651-9	INSIDE DOUBLER
1	D3651-11	GASKET
1	D3651-13	OUTSIDE DOUBLER
58	CR3523-4-02 or NAS9307M-4-02	RIVET

RELEASED 08-03-27

D3651-041 AFT BASE ASSEMBLY

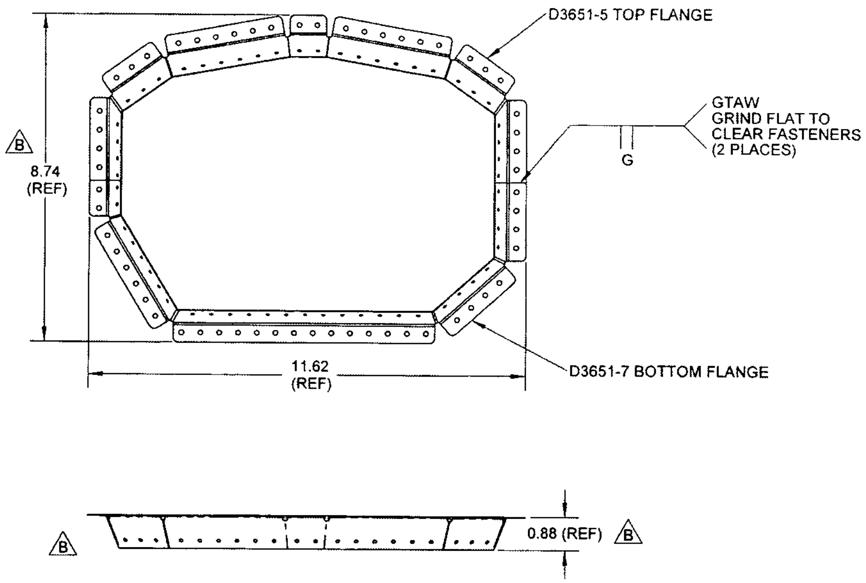
D3651-041 NOTES:
1) SEAL ALL MATING SURFACES AND GAPS USING PROSEAL 700 FIRE WALL SEALANT
2) INSTALL D3651-1 USING 3M HIGH PERFORMANCE CONTACT ADHESIVE 1357
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: NONE
7) WEIGHT: 1.6 lbs

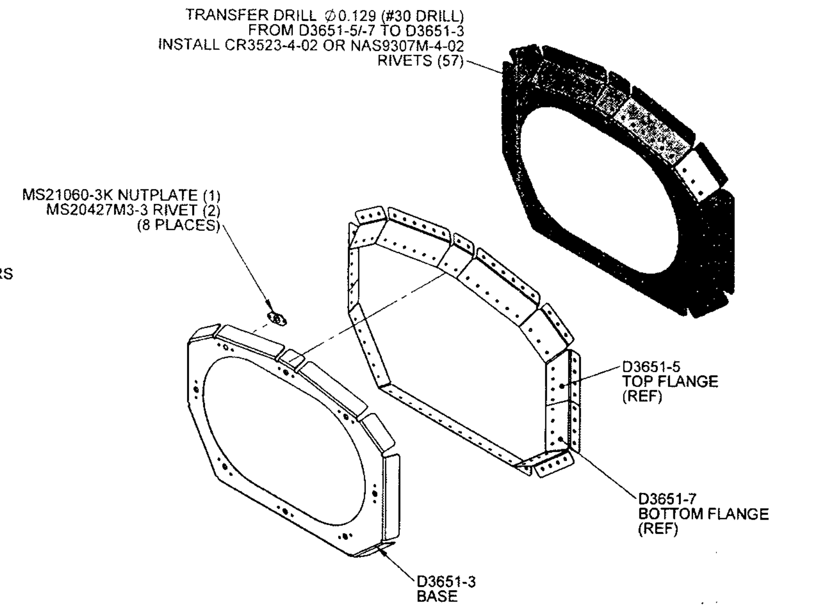
REV.	DESCRIPTION	BY	DATE
B	SHEET 1: GENERAL UPDATE SHEET 2: 8.74 WAS 8.50; 0.88 WAS 0.98; REMOVED ANGLE SHEETS 4, 5, 6, 8 & 9: GENERAL DIMENSIONAL UPDATE SHEET 7: 5.514 WAS 5.504	RF	08.01.07
A	NEW ISSUE	RF	07.11.07

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	
CHECKED	[signature]	DRAWING NO. D3651 — REV. B — SHEET 1 OF 9
MFG. APPR.	[signature]	
APPROVED	[signature]	TITLE AFT BASE ASSEMBLY — SCALE 1:4
DE APPR.	[signature]	
DATE	08.01.07	

8 7 6 5 4 3 2 1

95376.





QTY -043	PART NUMBER	DESCRIPTION
X	D3651-043	FLANGE WELDMENT
1	D3651-3	BASE
1	D3651-5	TOP FLANGE
1	D3651-7	BOTTOM FLANGE
16	MS20427M3-3	RIVET
8	MS21060-3K	NUTPLATE
57	CR3523-4-02 or NA9307M-4-02	RIVET

RELEASED 08.03.27

D3651-043 FLANGE WELDMENT

D3651-043 NOTES:
1) WELD PER QSI 004
2) FINISH: NONE
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: NONE
7) WEIGHT: 0.76 lbs

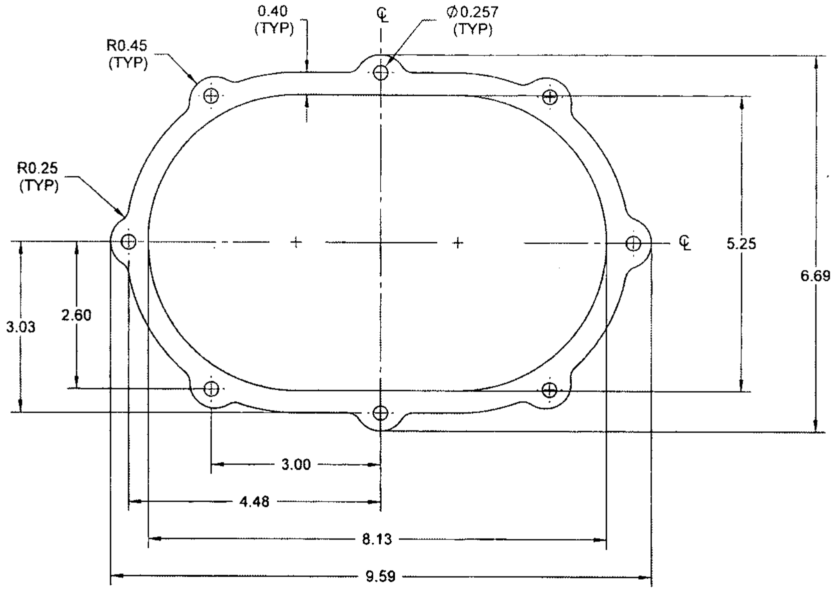
DESIGN	RF
DRAWN	RF
CHECKED	
MFG. APPR.	
APPROVED	
DE APPR.	
DATE	08.01.07

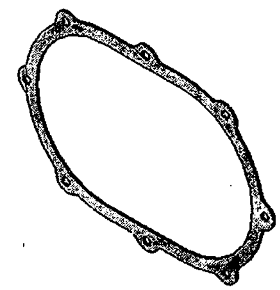
DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. D3651 — REV. B — SHEET 2 OF 9

TITLE: AFT BASE ASSEMBLY — SCALE 1:3

95376





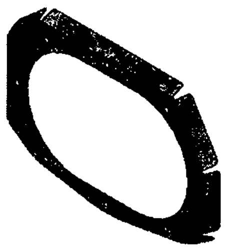
D3651-1 GASKET

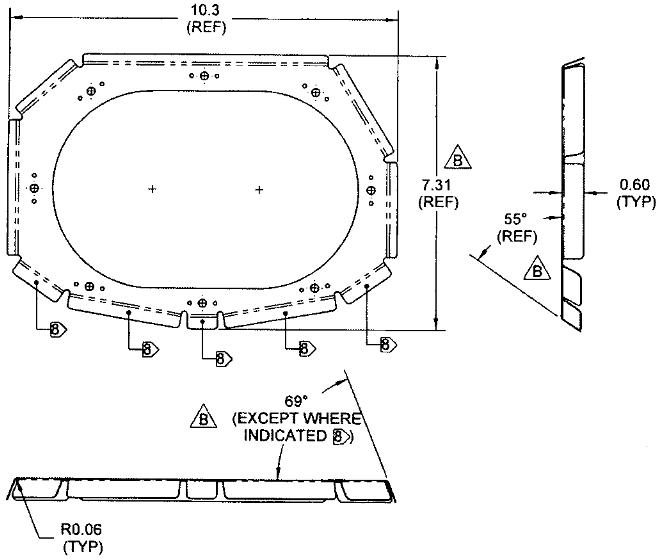
NOTES:
1) MATERIAL: THERMO-CHEM P/N G-89, (REF. 0.060 THICK)
POSSIBLE SUPPLIER: A.R. THOMSON GROUP
2) FINISH: NONE
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: NONE
7) PART IS SYMMETRIC ABOUT ℄
8) WEIGHT: 0.09 lbs

08.03.27

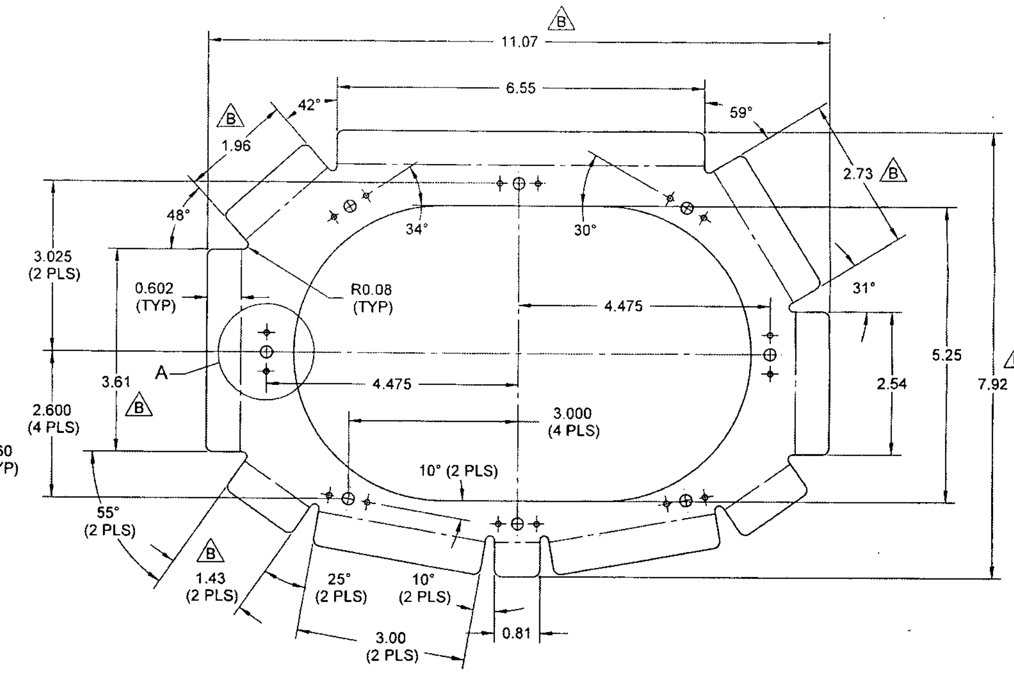
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	
CHECKED		DRAWING NO. D3651 — REV. B — SHEET 3 OF 9
MFG. APPR.		
APPROVED		TITLE: AFT BASE ASSEMBLY — SCALE 1:2
DE APPR.		
DATE	08.01.07	

95376

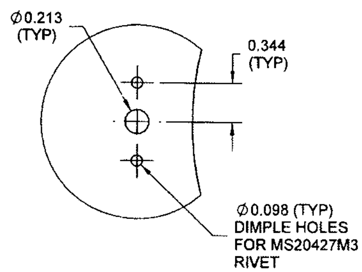




D3651-3 BASE
(MAKE FROM D3651-3F FLAT PATTERN)



D3651-3F FLAT PATTERN



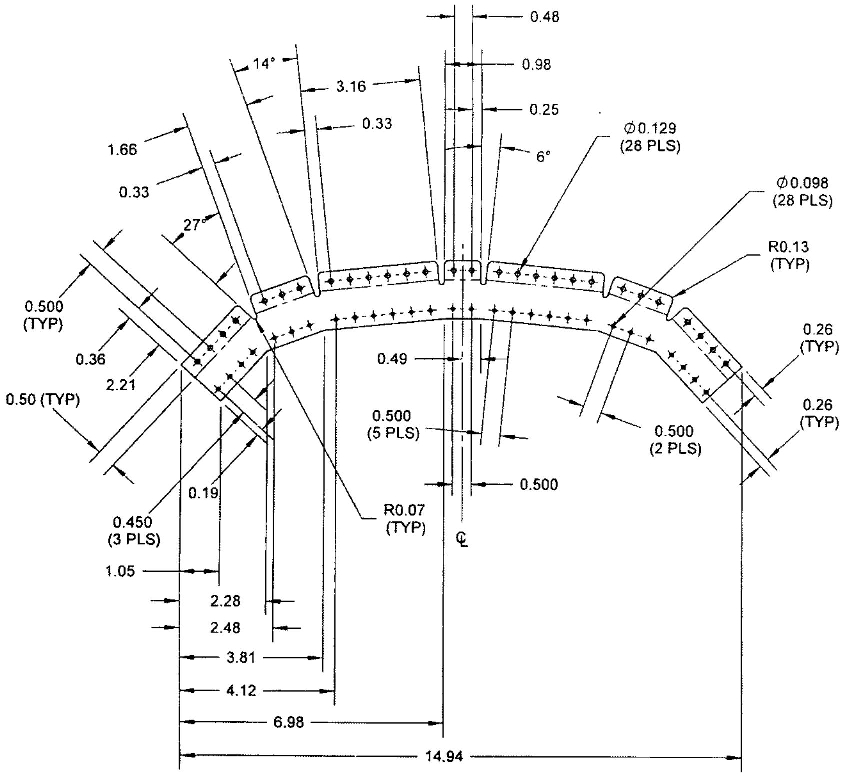
DETAIL A

NOTES:
1) MATERIAL: AISI 304/316 STAINLESS STEEL 0.018 (26 GAUGE) SHEET, PER MIL-S-5019
(REF. DART SPEC. M304S26GA)
2) FINISH: NONE
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: NONE
7) WEIGHT: 0.27 lbs
8) BEND TO 55° WHERE INDICATED

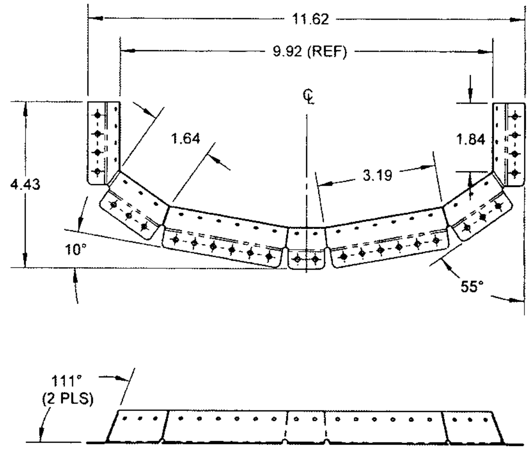
08-03-27

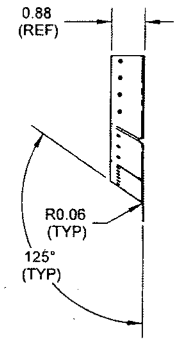
DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	DRAWING NO. D3651 — REV. B — SHEET 4 OF 9
CHECKED		
MFG. APPR.		
APPROVED		TITLE: AFT BASE ASSEMBLY — SCALE 1:2
DE APPR.		
DATE	08.01.07	

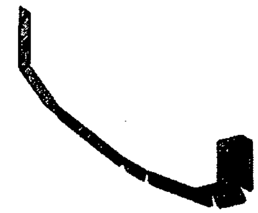
95376



D3651-5F FLAT PATTERN (B)







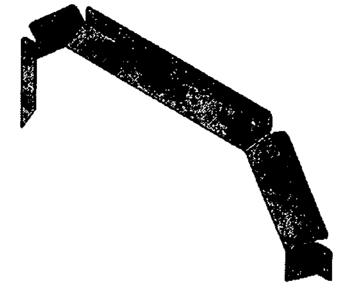
D3651-5 TOP FLANGE BEND DETAIL (B)
(MAKE FROM D3651-5F FLAT PATTERN)

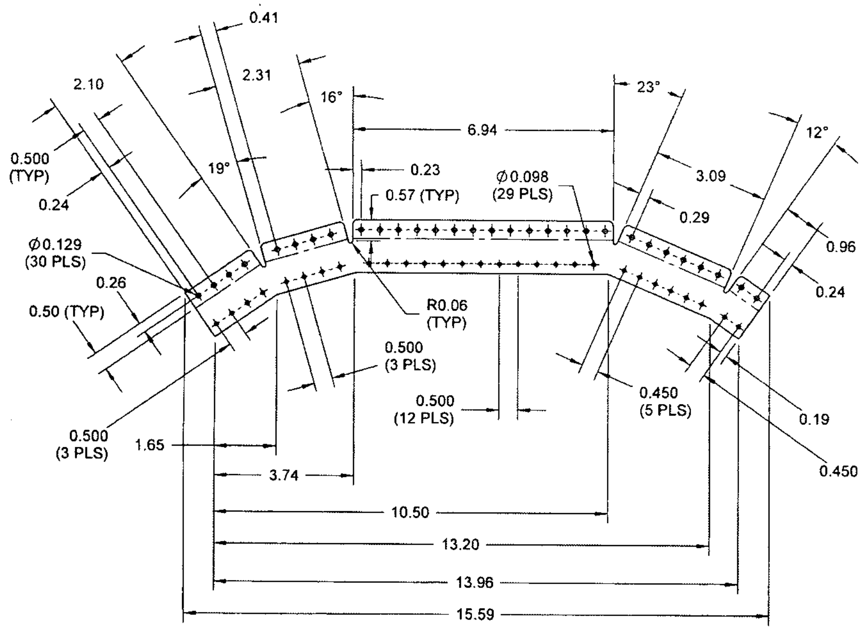
08-03-27

NOTES:
1) MATERIAL: AISI 304/316 STAINLESS STEEL 0.018 (26 GAUGE) SHEET, PER MIL-S-5019
(REF. DART SPEC. M304S26GA)
2) FINISH: NONE
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: NONE
7) WEIGHT: 0.02 lbs

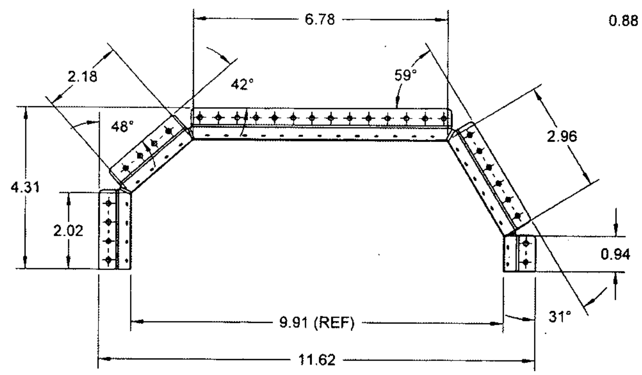
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	DRAWING NO. D3651 — REV. B — SHEET 5 OF 9
CHECKED		
MFG. APPR.		TITLE: AFT BASE ASSEMBLY — SCALE 1:3
APPROVED		
DE APPR.		
DATE	08.01.07	

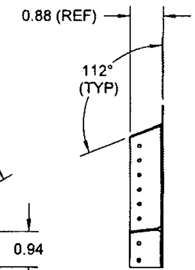
95376





D3651-7F FLAT PATTERN B





D3651-7 BOTTOM FLANGE BEND DETAIL B

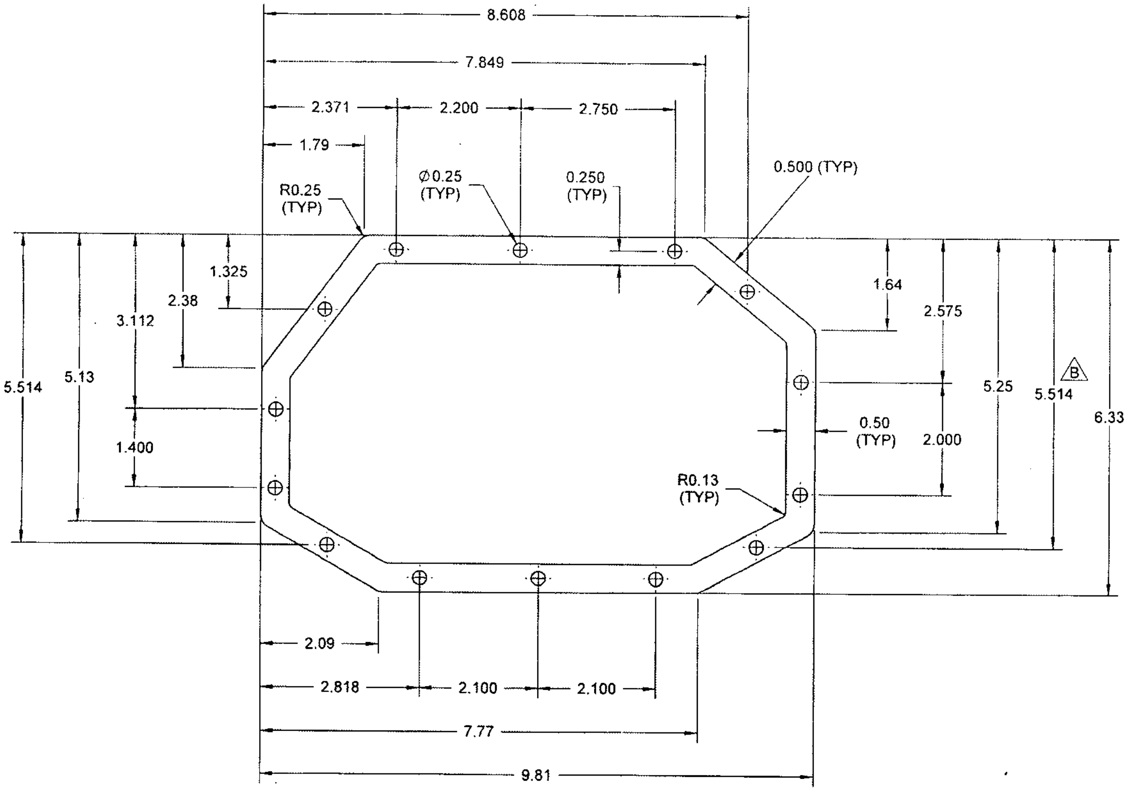
(MAKE FROM D3651-7F FLAT PATTERN)

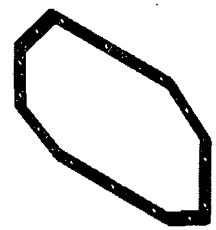
08-03-27

NOTES:
1) MATERIAL: AISI 304/316 STAINLESS STEEL 0.018 (26 GAUGE) SHEET, PER MIL-S-5019
(REF. DART SPEC. M304S26GA)
2) FINISH: NONE
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: NONE
7) WEIGHT: 0.02 lbs

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED		DRAWING NO. D3651	REV. B SHEET 6 OF 9
MFG. APPR.			
APPROVED		TITLE AFT BASE ASSEMBLY	SCALE 1:3
DE APPR.			
DATE	08.01.07		

95376





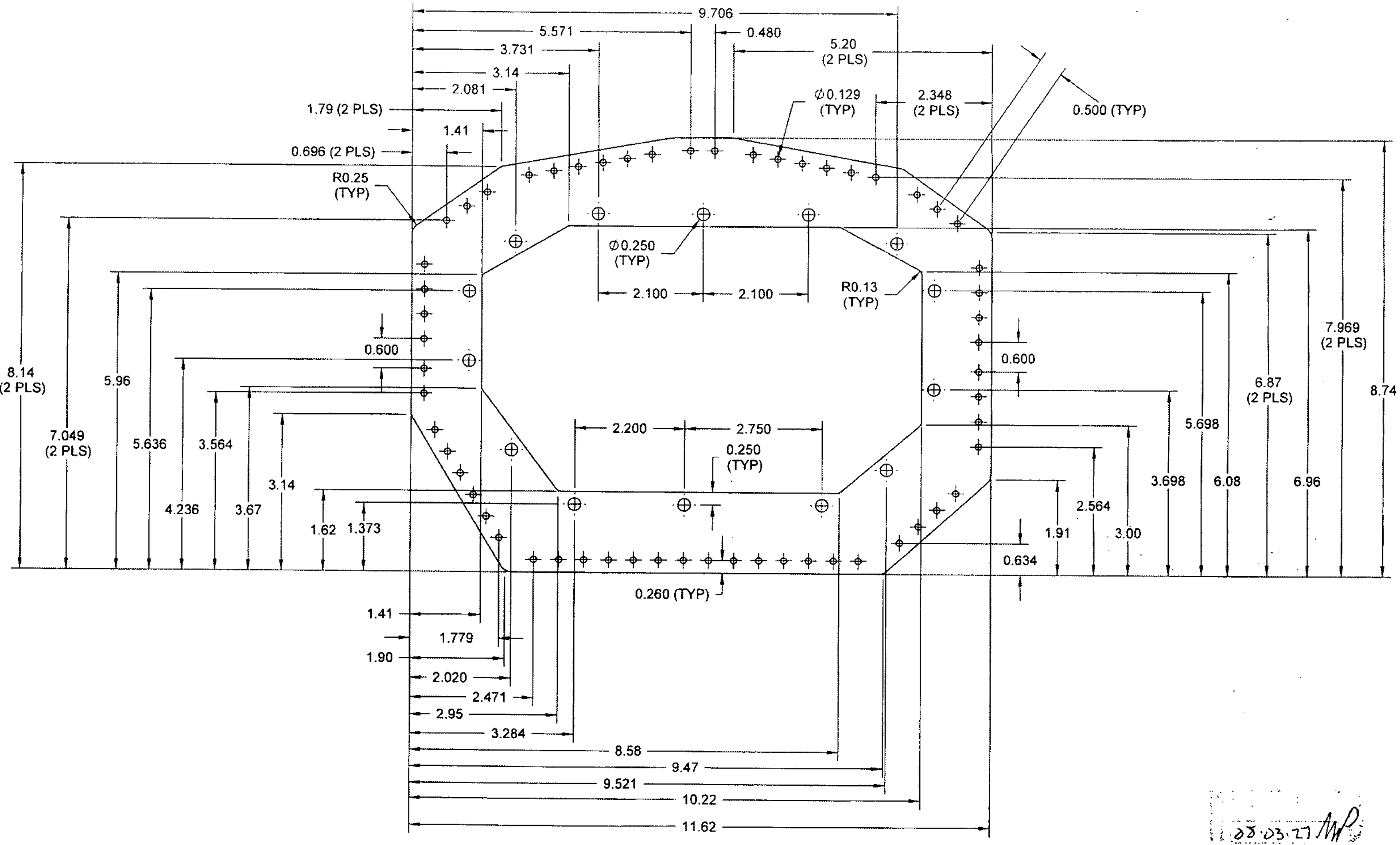
D3651-9 INSIDE DOUBLER

08.03.27

NOTES:
1) MATERIAL: AISI 304/316 STAINLESS STEEL 0.018 (26 GAUGE) SHEET, PER MIL-S-5019 (REF. DART SPEC. M304S26GA)
2) FINISH: NONE
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: NONE
7) WEIGHT: 0.07 lbs

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	DRAWING NO. D3651 — REV. B — SHEET 7 OF 9
CHECKED		TITLE: AFT BASE ASSEMBLY — SCALE 1:2
MFG. APPR.		
APPROVED		
DE APPR.		
DATE	08.01.07	

95376



08.03.27

NOTES:
1) MATERIAL: THERMO-CHEM P/N G-89, (REF. 0.060 THICK)
POSSIBLE SUPPLIER: A.R. THOMSON GROUP
2) FINISH: NONE
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: NONE
7) WEIGHT: 0.2 lb

D3651-11 GASKET B

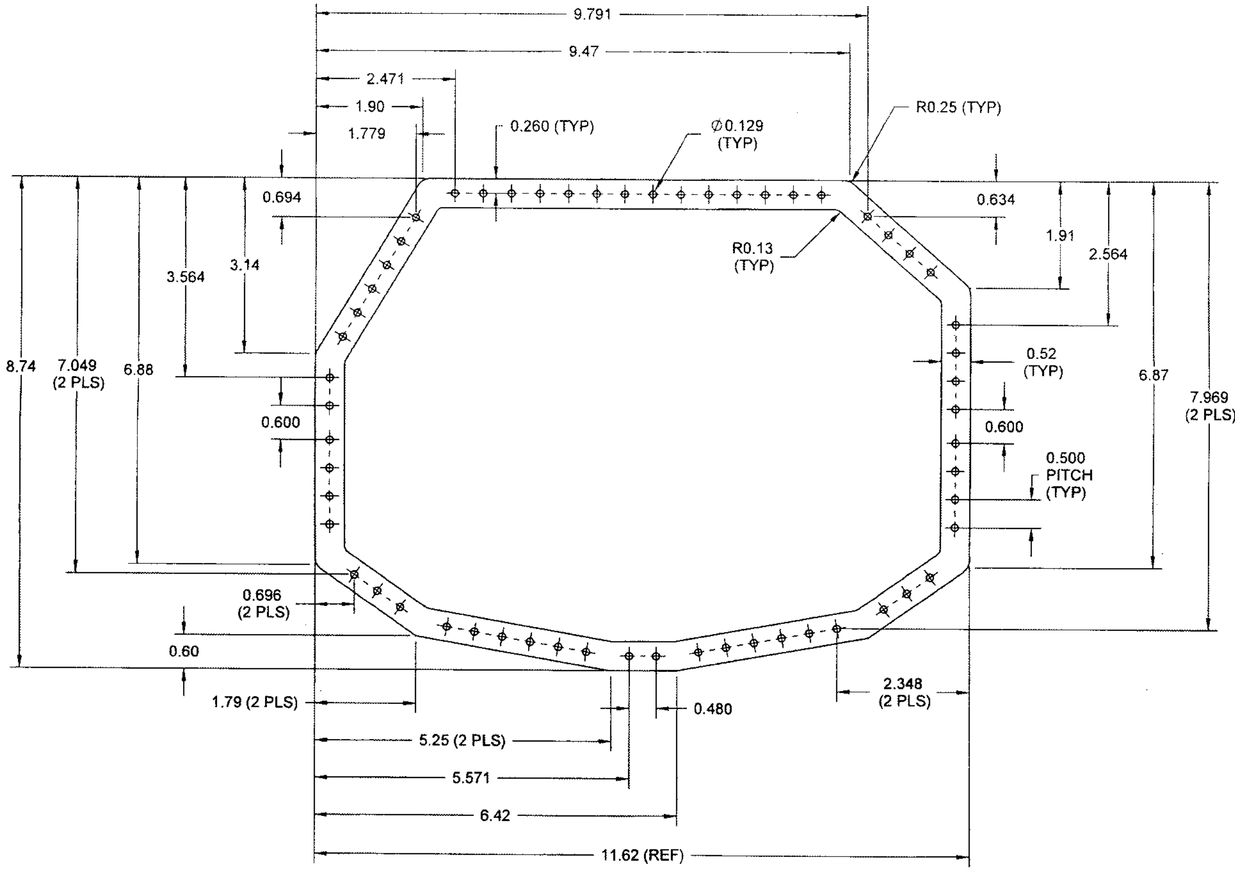
DESIGN	RF
DRAWN	RF
CHECKED	
MFG. APPR.	
APPROVED	
DE APPR.	
DATE	08.01.07

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. D3651 — REV. B — SHEET 8 OF 9

TITLE: AFT BASE ASSEMBLY — SCALE 1:2

95376



08.03.27

D3651-13 OUTSIDE DOUBLER B

NOTES:
1) MATERIAL: AISI 304/316 STAINLESS STEEL 0.018 (26 GAUGE) SHEET, PER MIL-S-5019 (REF. DART SPEC. M304S26GA)
2) FINISH: NONE
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: NONE
7) WEIGHT: 0.10 lbs

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	
CHECKED		DRAWING NO. D3651 — REV. B — SHEET 9 OF 9
MFG. APPR.		
APPROVED		TITLE AFT BASE ASSEMBLY — SCALE 1:2
DE APPR.		
DATE	08.01.07	